The Secretary of Energy
Washington, DC 20585

October 4, 2005

MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS

FROM: SAMUEL W. BODMAN

SUBJECT: Implementation of the President's Directive on Energy and Fuel Conservation at Department of Energy Federal Facilities

September 26, 2005, the President directed Heads of Departments and Agencies to "take appropriate actions to conserve natural gas, electricity, gasoline, and diesel fuel to the maximum extent consistent with effective discharge of public responsibilities." You can view the President's Memorandum on the internet at www.whitehouse.gov/infocus/energy/. The Department of Energy (DOE) should take a leadership role in reducing its own energy use. Such conservation could help to minimize potential shortages and upward pressure on prices.

Although I expect all DOE sites to conserve energy, there are regions that must be especially aggressive. All DOE sites in regions where natural gas shortages are possible should conserve especially during periods of peak consumption this winter. DOE sites in regions dependent on natural gas for generating electricity should reduce their use of electricity. DOE sites should curtail non-essential travel and other activities that use gasoline or diesel fuel, and encourage employees to carpool, telecommute, and use public transportation to reduce fuel use. Furthermore, the actions should include the procurement of high-efficiency or alternative-fueled vehicles, Energy Star-rated products, and FEMP-recommended products.

Program Secretarial Officers shall provide their report of actions taken to fulfill the Presidential Directive to Douglas L. Faulkner, Acting Assistant Secretary for Energy Efficiency and Renewable Energy (EERE), by October 17, 2005. The report should be in the format provided in the attached reporting guidance that was distributed to all Federal agencies. The actions reported should include those of the Program Office and/or their landlord sites for each type of energy conservation measure and the estimated energy reduction impact, as required by the report format. An EERE point of contact (POC) is provided in the guidance document.

These actions as well as long term energy efficiency measures to achieve the goals established by EPACT 2005 should be incorporated into your site-specific energy management performance agreements. These agreements are required by DOE Order 430.2A, "Departmental Energy and Utilities Management."

I expect that our Department will implement the President's directive to the fullest and our actions will result in a more energy efficient DOE. I am confident that you and your organizations can help us set the example for the Federal Government.

Attachment

Reporting Guidance for Energy Conservation Efforts at Federal Facilities and in Vehicle Fleets Following Hurricanes Katrina and Rita

Background

As the United States responds to the aftermath of hurricanes Katrina and Rita a key component of this Administration's overall commitment to alleviate the resulting energy supply disruptions is to improve energy conservation at Federal facilities. The requirement for emergency conservation plans is contained in Title 10, Code of Federal Regulations, Part 436, Subpart F, Paragraph 436.105. Further, with possible energy shortages this winter, the Federal Government should set a good example of conservation by reducing its own energy use, particularly in regions where electricity and natural gas shortages may occur and during periods of high energy consumptions. Such conservation and energy efficiency improvements will save public money, protect the environment, and help to minimize shortages. The Federal government is in a position to reduce loads and make a sizable contribution in the effort to avoid energy emergencies.

On September 26, 2005 President Bush issued a directive to the heads of executive departments and agencies ("agencies") to take appropriate actions to conserve natural gas, electricity, gasoline, and diesel fuel at their facilities to the maximum extent consistent with the effective discharge of public responsibilities. It is expected that all Federal Government sites be diligent in the pursuit of energy conservation and while certain regions must be especially aggressive to minimize shortage impacts, all Federal sites in regions where natural gas shortages are possible should conserve especially in periods of peak consumption during the upcoming winter season. Individual facility plans should be customized to site specific conditions. Also, Federal sites in regions dependent on natural gas for generation of electricity should take action to conserve electricity. Agencies located in regions where energy shortages are occurring should focus on conserving energy especially during periods of peak consumption. Additionally, all agencies should conserve natural gas and petroleum products so we can reduce overall demand and until the damaged natural gas and oil production and distribution facilities are repaired and supply returns to normal levels. In particular, agencies should temporarily curtail non-essential travel and other activities that use gasoline or diesel fuel, and more aggressively encourage employees to carpool, telecommute, and use public transportation to reduce fuel use. Federal agencies should also take action to conserve natural gas and electricity during periods of peak consumption by reducing energy-intensive activities wherever possible, switch to non-petroleum based fuels and by procuring and using efficient Energy STAR-rated and FEMP rated appliances and products.

Reporting of Conservation Actions to the President

Agencies should review their existing operating and administrative processes and conservation/energy efficiency programs and identify and implement additional ways to reduce overall energy use. An FY 2004 listing of energy use by fuel type and by agency is found at the end of this package for your reference. All agencies are required to report back to the President, through the Secretary of Energy, by October 26, 2005 on the fuel conservation actions taken. The required format for the report is included at the end of this package. Please note that we are asking for all vehicles and equipment including those vehicles reported annually through GSA Fleet Management. The agencies shall take these and other appropriate energy conservation actions using existing budget authority.

General

1. Establish/enhance communications with the local electric and natural gas utility company. Understand their needs for load reductions. Work with the local utility to develop the individual facility plan.
2. Identify load reduction measures appropriate for the facility. Investigate separating loads into: (1) Life, health and safety driven; (2) Mission critical; and, (3) Non-critical. If not separately switchable, investigate modifying systems to allow terminating or reducing non-critical loads.
3. Agencies should immediately update their facility's "Plan of Action for Emergency Electricity Reductions" and develop a similar plan for natural gas.
4. Federal facilities should take steps to rapidly reduce their electricity and natural gas loads, even if these actions would require some sacrifices in employee comfort or convenience. These actions should include: raising indoor temperatures to 78 degrees or lowering indoor temperatures to 68 degrees; shutting down non-essential space heating/cooling up to one hour before the normal close of each workday; turning off nonessential lighting and building systems such as escalators; a portion of all elevators, chilled water for fountains); and, reducing corridor lighting. Federal facility managers should also additional actions to reduce negative energy impacts. These could include the following steps.
5. Establish a system to alert employees of the need to conserve energy during the recovery period including, but not limited to E-mail, voice mail, or public address announcement to all employees. Communicate early to allow employees to take load reduction measures at home and to dress appropriately.
6. Monitor total facility demand and demands for individual major loads (if separate metering is available). [EPACT 2005 requires all Federal facilities to install electric meters for all building, within guidelines to be developed by DOE. We are currently working to develop the guidelines]. Monitor weather forecasts to predict high demand days and be proactive in communicating with the local utility to assess need to reduce load.
7. Initiate load reduction measures. Employees can take steps to reduce lighting, personal computers and appliances electricity use. While energy efficiency should

be encouraged on a daily basis, stress the need for increased diligence to alleviate supply disruptions and price spikes during the recovery period. Heating and air conditioning operating changes and other system-wide measures should be accomplished by facilities management. Federal facilities that have energy management and control systems are well suited for this task. Facilities should also consider additional measures appropriate for site specific circumstances.

8. Encourage employees to reduce energy consumption in their homes, to reduce demand on the utility system. If no one is at home during the workday, unneeded appliances and lights should be turned off, and heating and air conditioning thermostats should be set lower or higher as appropriate, before departing for the day. Also, some utilities offer cost incentives to residential customers who allow the utility to remotely cycle off power to air conditioning and electric water heating systems. Periods without power are limited, so that comfort is not sacrificed. Encourage employees to participate in these programs, to assist the local utility, while reducing their electricity and natural gas bills.
9. Enhance employee awareness of energy efficiency through training and less formal methods. Provide mandatory and voluntary training opportunities on smart energy practices so that employees can practice energy efficiency during the recovery periods and year-round. In addition to training, run public service announcements about energy efficiency on televisions in cafeterias and other public use areas; send periodic e-mail messages about turning off lights and computers and implementing other efficiency practices; post signs or billboards near light switches or communal printers; and consider holding annual energy fairs prior to seasonal emergency periods to provide additional information for employees to show how to manage energy use in the work place and in their homes.
10. Agencies should temporarily curtail non-essential travel and other activities that use gasoline or diesel fuel, and encourage employees to carpool, telecommute, and use public transportation to reduce fuel use.
11. Take action to conserve natural gas and electricity during periods of peak consumption by reducing energy-intensive activities until after the recovery period wherever possible and by procuring and using efficient Energy STARor FEMP rated energy appliances and products.

Lighting Measures

1. Turn off fluorescent lights when leaving an area for more than 1 minute. (During non-emergencies, 5 minutes is recommended, to keep from excessively reducing lamp life). Turn off incandescent lights when leaving areas for any period of time.
2. In areas with sufficient daylighting, turn off lights. Adjust blinds, if available, to reduce glare.
3. Use task lighting and turn off general lighting, where it is feasible to maintain sufficient lighting levels for safety and productivity.
4. Turn off display and decorative lighting.

Personal Computers And Appliance Measures

1. Turn off printers when not in use.
2. Turn off monitors when not in use.
3. Ensure ENERGY STAR power down features are activated.
4. If computers do not have ENERGY STAR features available, turn them off when leaving the office for more than 30 minutes.
5. Ensure personal appliances, such as coffee pots and radios are turned off.

Air Conditioning Measures

1. Pre-cool building(s) below normal temperature settings prior to onset of peak demand period. Make sure to tell employees about this practice, so that they will not operate space heaters. During peak demand period, allow space temperatures to drift back up to normal settings (or as much as 5 degrees Fahrenheit (F) above normal settings).
2. Allow casual attire, to make higher temperatures more acceptable.
3. Where systems allow, lower chilled water temperatures several degrees below normal settings prior to peak periods, and allow to drift above normal settings during peak periods.
4. Duty cycle air handling units off. Ensure adequate outside air flow rates to maintain indoor air quality.
5. Ensure that ventilation grilles and fan coil units are not blocked by books, flowers, debris, or other obstructions. This will improve air conditioning system efficiency and improve comfort.

Other

1. Shut off selected elevators and escalators. Ensure accessibility needs are met.
2. Where feasible, schedule high electrical energy use processes during off peak periods.
3. Encourage employees to not use copiers during peak demand period. Turn off selected copiers. Ensure power saver switch on copiers is enabled.
4. Turn off unnecessary loads such as fountain pumps.

Long Term Solutions

1. Consider installing sub-metering to identify high intensity loads to be shed during emergencies. [EPACT 2005 requires metering at every building, within guidelines currently under development by DOE].
2. Investigate thermal storage systems or alternative energy sources for air conditioning.

3. Install motion sensors and separate lighting circuits to allow turning off unneeded lights. (Some agencies have installed switching to separate public areas from agency work spaces).
4. Install an Energy Management and Control System to allow shedding and monitoring loads from one central location. If non-critical loads are not separately switchable, modify systems to allow terminating. Local utilities or energy services companies (ESCOs) can assist with this effort.
5. Consider adding on-site generation using micro-turbines, fuel cells, combined heat and power, renewable, or other appropriate technology.
6. Institutionalize operations and maintenance best practices for enhanced, long term energy efficiency solutions. See the following sites for more information: http://www.eere.energy.gov/femp/operations_maintenance/om_best_practices guidebook.cfm
7. Refer to the following publications to reduce your heating and cooling costs, and to save money and energy with operations and maintenance techniques:
    1. http://www.eere.energy.gov/femp/pdfs/om_cooling.pdf
    2. http://www.eere.energy.gov/femp/pdfs/om_combustion.pdf
    3. http://www.eere.energy.gov/femp/pdfs/om_savemoney.pdf
8. Consider implementation of a continuous improvement program of metering, monitoring and retro-commissioning of building systems. See the following sites for more information: http://www.eere.energy.gov/femp/operations_maintenance/commissioning_guidebo ok.cfm
9. Consider the acquisition of a Resource Efficiency Manager. See the following site for more information: http://www.eere.energy.gov/femp/pdfs/rem_guidebook.pdf
10. Consider advanced utility metering for improved operations, maintenance, and efficiency. See the following site for more information: http://www.eere.energy.gov/femp/pdfs/om_metering.pdf

While federal facilities are encouraged to take immediate action over the next month, agencies at the same time should plan for and implement medium and long term solutions. FEMP is prepared to help agencies create or enhance their energy efficiency plans so that federal agencies can conserve and operate at optimum efficiency. These plans should include both energy efficiency steps for everyday operation as well as consideration of readiness for emergency situations—to be prepared to reduce demand when there is a critical occurrence at the national or local level. Such steps are important for the nation at large and can help assure uninterrupted government service in times of crisis. In terms of longer term actions, FEMP is prepared, as always, to offer a wide range of services including assistance with alternative financing projects, new construction, and operations and maintenance.

NATURAL GAS TIPS

Buildings

1. Optimize combustion efficiency
2. Lower thermostat settings (relax dress code to allow for warmer clothing)
3. Lower setback temperatures
4. Optimize morning warm-up and night setback controls
5. Minimize reheat
6. Minimize outside air use for ventilation consistent with code requirements
7. Replace or clean filters
8. Clean heating and cooling coils
9. Shut off non-essential equipment and spaces
10. Insulate and caulk
11. Inspect and adjust/repair/replace dampers
12. Retro-commission
13. Accelerate replacement of inefficient equipment

Central Heating Plants

1. Optimize combustion efficiency
2. Minimize boiler blowdown
3. Optimize boiler loading
4. Clean combustion chamber and heat transfer surfaces
5. Switch to non-petroleum based fuels

Domestic Hot Water

1. Lower Water Temperatures consistent with hygiene requirements
2. Install low flow faucets
3. Install water heater jackets/insulate tanks and piping
4. Turn off circulating systems on nights and weekends

Thermal Distribution Systems

1. Inspect and Repair/Replace steam traps
2. Inspect and Repair condensate return equipment
3. Locate and repair steam leaks
4. Repair insulation
5. Isolate non-essential distribution piping

http://www.eia.doe.gov/emeu/efficiency/energy_savings.htm

Actions Taken to Conserve Energy and Improve Energy Efficiency in Response to Presidential Memorandum of September 26, 2005

Agency: _____ Prepared by: _____

Date: _____ Phone: _____

Facility Energy

List Actions Taken to Conserve ***Electricity*** Est. Savings _____ MWH

1)
2)
(insert more rows as needed)

List Actions Taken to Conserve ***Fuel Oil*** Est. Savings _____ Thou. Gallons

1)
2)
(insert more rows as needed)

List Actions Taken to Conserve ***Natural Gas*** Est. Savings _____ Thou. Cu. Ft.

1)
2)
(insert more rows as needed)

NOTE: This is for <u>All</u> vehicles and equipment including what is reported through GSA fleet.

Vehicle & Equipment Fuel

List Actions Taken to Conserve ***Gasoline*** Est. Savings _____ Thou. Gallons

1)
2)
(insert more rows as needed)

List Actions Taken to Conserve ***Diesel Fuel*** Est. Savings _____ Thou. Gallons

1)
2)
(insert more rows as needed)

Specific Actions Called Out in the President's Memorandum

Did your agency:

	Yes	No
Temporarily curtail non-essential travel and other activities that use gasoline or diesel fuel?		
Encourage employees to carpool, telecommute, and use public transportation to reduce fuel use?		
Shift energy-intensive activities to non-peak periods?		
Procure and use ENERGY STAR appliances and products?		

AGENCY ENERGY USE BY FUEL TYPE FY 2004

agency	Electricity	Fuel Oil	Nat Gas	Gasoline	Diesel	Total
DOD	104,633	30,199	73,740	14,391	17,565	240,528
USPS	17,747	674	5,894	12,124	3,477	39,915
DOE	16,940	1,471	6,835	1,920	544	27,709
VA	10,201	1,108	15,498	804	225	27,836
GSA	9,749	103	6,597	44	1	16,494
NASA	5,413	376	2,647	167	179	8,782
DOJ	4,555	140	7,469	2,798	108	15,069
HHS	3,257	416	3,952	294	20	7,939
DOT	3,127	120	738	516	77	4,577
DHS	2,351	1,196	1,093	4,090	10,586	19,317
DOI	2,202	809	1,484	2,234	497	7,226
USDA	2,018	230	1,520	2,226	256	6,251
TVA	1,866	2	5	630	198	2,701
TRSY	1,412	60	503	288	19	2,283
DOC	1,089	42	890	125	6	2,152
DOL	1,003	290	1,113	314	77	2,797
SSA	713	41	169	38	0	961
USIA	528	416	0	10	9	963
EPA	464	95	407	82	17	1,065
ST	430	0	62	383	65	941
NARA	287	0	184	0	0	471
NRC	83	0	1	0	0	84
HUD	77	0	0	33	0	110
RRB	15	0	20	0	0	35
Total	190,161	37,788	130,822	43,512	33,925	436,209

10% reduction (billion Btu)	19,016	3,779	13,082	4,351	3,392	43,621
	MWH	Gallons	Thou. Cu. Ft.	Gallons	Gallons	Billion Btu
10% reduction (Fuel Units)	5,573,314	27,244,642	12,688,871	34,809,724	24,459,151	43,621

Department of Energy – September 30, 2005

For implementation questions or assistance, please contact Vic Petrolati 202-586-4549.

Submit your form to:

Victor Petrolati
U.S. Department of Energy, EE-2L
1000 Independence Avenue, SW
Washington, DC 20585

Or via e-mail at victor.petrolati@ee.doe.gov